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ABSTRACT

U.S. ARMY INTELLIGENCE IN SUPPORT OF THE 100 HOUR WAR: FACT OR FICTION/MYTH OR REALITY? By LTC David W. Cammons, USA, 45 pages.

The objective of this monograph is to evaluate the performance of U.S. Army intelligence in Desert Shield/Storm. Several limitations or constraints apply. First, the paper is unclassified and, hence, specific details of several important points had to be omitted. The unclassified nature of the paper does not invalidate the conclusions, however, since most if not all of the broad concepts and operations are in unclassified sources.

The monograph evaluates Army intelligence performance in light of the new intelligence environment created by Desert Shield/Storm. A unique set of external factors must be understood before an adequate assessment of Gulf War intelligence can be made. Those external factors are considered and their impact on Army intelligence discussed.

The last section of the monograph evaluates Army intelligence in Desert Shield/Storm during each phase of the Intelligence Cycle. Each phase is evaluated by the author's subjective evaluation; comments and observations by other authors; and, when available, remarks by those who were in the war. The conclusion places the separate phase evaluations in juxtaposition to the external factors discussed to arrive at an overall conclusion of the efficacy of U.S. Army intelligence during the war.

U.S. ARMY INTELLIGENCE IN SUPPORT OF 100-HOUR WAR: FACT OR FICTION/MYTH OR REALITY?

A Monograph
By
Lieutenant Colonel David W. Cammons
Military Intelligence



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Introduction

I think that as far as the intelligence support and the war as a whole, it was excellent...One of the shortcomings we found is that we just don't have an immediately responsive intelligence capability...The analysis we received was unhelpful.¹

General Schwarzkopf

In the aftermath of Desert Shield/Desert Storm, intelligence in support of the war was arguably the most controversial topic of the operation's post mortem.² Verdicts on the efficacy of intelligence run the gamut from best to worst. The quote above best depicts the essence of the controversy. On the one hand, the Commander in Chief of the American forces in the Gulf tells us his intelligence was excellent and, on the other hand, that it did not serve him well as a commander. This single statement is indicative of the wide range of assessments of intelligence support made during the conflict. It also provides a hint that there will be no simple, clear-cut assessment of war-time intelligence. The intent of this paper is not to provide such an assessment across the broad spectrum of intelligence, but rather to judge the performance of the Intelligence Battlefield Operating System (BOS) as it relates to Army intelligence in support of the ground war.

However, even evaluation of this more narrowly-defined aspect of intelligence is a complex matter. A fair assessment of Army intelligence requires an explanation of several key components of the topic. First, one must consider the limitations,

restrictions and scope of the assessment itself. Then it is necessary to examine the factors external to the intelligence process that impact on any final assessment. Next, an analysis of the intelligence function requires an evaluation of each of the subcomponents of the intelligence process, known collectively to Army intelligence professionals as the Intelligence Cycle. Finally, any appraisal must consist ultimately of subjective evaluation on the part of the author, salient comments/observations from others and the assessments or judgements of those actually involved in the war, both in the intelligence community and those responsible for the conduct of the relevant operations. Such a systematic approach to assessment of US Army intelligence support in Desert Shield/Desert Storm is the method followed in this paper. The conclusions are the author's own and reflect neither the position of the US Army intelligence community nor that of the US Army.

Limitations

As with all studies, this paper is written under several constraints, all of which impact on the analysis to a lesser or greater degree. The constraints notwithstanding, the results and conclusions are still believed valid.

The most severe limitation is classification. Although the unclassified nature of this paper does not invalidate the conclusions, many details that could be used to support those conclusions cannot be included. As of the date of this paper, many of the After Action Reports, orders and related papers have still not been declassified. Further, it is unlikely that whole disciplines, specifically Human Intelligence and Signals

Intelligence, will be declassified in the foreseeable future. Pertinent documents, regardless of classification, are nevertheless included in the bibliography for future reference.

Another limitation, although certainly not a constraint or restraint in the formal sense, is the scope of the topic. Neither space nor time permit a thorough analysis of the entire national intelligence effort conducted in support of the war. The Gulf War is unique in the annals of military intelligence. It is unique because, for the first time, the dividing line between national, strategic and tactical intelligence efforts simply dissolved. National intelligence agencies were called upon to gather tactical intelligence and tactical units, strategic intelligence. The distinction between echelons disappeared, as did the fuzzy lines between the armed services and between the services and other intelligence agencies. As a result, US Army intelligence was intertwined with the intelligence efforts of other services and other departments. To achieve a cogent assessment of US Army intelligence in the space and time allocated, only that portion of the total intelligence process that impacts on Army intelligence can be reviewed.

Finally, related to scope, this paper will not address doctrine but will focus on whether the U.S. Army intelligence system was able to deliver timely, accurate intelligence to the commander. The war required tremendous adaptation, modification and initiative by the intelligence community which has, in fact, caused significant changes to subsequent Army intelligence doctrine. This paper will not address doctrinal issues *per se* but will address those expedient changes made by the

intelligence community to get intelligence to commanders. The development of doctrine to incorporate those changes is ongoing in the appropriate institutions. BG Stewart, 3rd Army and ARCENT G-2, recognized the relationship between his operation and Army doctrine: "We applied doctrine--innovatively, and we learned about how we must operate in the future."³ After the war, BG Stewart became the Commanding General of the Intelligence Center and School and was instrumental in improving Army intelligence doctrine.

External Factors

Several factors external to the Army intelligence process proper impacted on the production of intelligence in the Gulf War. Though not a part of the intelligence process, these external factors greatly affected the intelligence system. The shift from a NATO-based concept of intelligence operations; delayed entry of intelligence organizations into theater; and internal, intelligence-related problems in the U.S. Air Force, combined to shape the environment in which the U.S. Army intelligence system had to operate. The impact of these factors cannot be overstated. In the final analysis, the success of the Army intelligence operation depended on the Army intelligence community's adjustment these external influences. The impact of each factor by itself may not be intuitively obvious, but the synergistic impact of all factors forced a new approach to intelligence operations. This section discusses these external factors, and the next section will conclude by addressing the synergistic impact of these external factors on the overall intelligence process.

Description of Factors

Perhaps the most significant of these external factors was the geopolitical shift from a Cold War perspective to one of regional interest. This shift in emphasis superimposed a new paradigm on Army intelligence. As BG Stewart put it, "In many ways for MI [Military Intelligence], Desert Storm stands forth as a harbinger for Army Intelligence operations in this decade and beyond."⁴ The net effect of this paradigm shift was to modify the very foundations of the intelligence *modus operandi*, resulting in the conduct of an intelligence operation for which intelligence personnel had never been trained.

For forty years, particularly after the Viet Nam War, the focus of the United States intelligence community was central Europe. The intelligence system (and doctrine) was designed to optimize collection against the Warsaw Pact in a defensive scenario, albeit in support of a US Army emphasizing offensive tactical operations. During those 40 years, the US intelligence apparatus had spied successfully on the Warsaw Pact with a variety of intelligence disciplines including signals intelligence (SIGINT), human intelligence (HUMINT), and imagery intelligence (IMINT). Intelligence was obtained from all echelons, tactical to strategic, analyzed and disseminated to users at all levels. Organic Military Intelligence (MI) units briefed the enemy situation to their commanders on a routine basis. The enemy was a known entity.⁵

This emphasis on defending against the Warsaw Pact inculcated a "power forward" mentality in intelligence as well as on operations. Just as the overall strategy in Europe was to defend well forward, so the doctrine in tactical intelligence was to

collect from front to rear, bottom to top. Forward units, close to or in contact with the enemy, would use their organic reconnaissance assets to report the situation. Higher headquarters would use their own intelligence or reconnaissance/surveillance assets, plus intelligence from lower units, to form an overall enemy situation assessment. Each headquarters would request specific missing intelligence from higher echelons who would, in turn, use their own or still higher assets to fill gaps in lower intelligence estimates. Thus, intelligence was integrated and passed back to higher and higher headquarters, building from bottom to top. The entire intelligence system was designed to accommodate this front-to-rear or bottom-to-top flow of intelligence.⁶

Just as tactical intelligence was fairly well defined for the European environment, so, too, was strategic intelligence. Unlike tactical intelligence, strategic intelligence is designed for decision makers at the highest echelons of government, including the National Command Authority. Strategic intelligence answers questions of national and theater import. It can and has produced tactical-level intelligence when that level of detail was necessary to answer specific intelligence requests. Normally, however, strategic intelligence was, and is, confined to the "bigger picture" level of resolution. Where tactical and strategic intelligence meet is at the theater level. Theater-level operations are supported by Echelon Above Corps (EAC) MI units. It is in the EAC units that tactical intelligence and strategic intelligence are fused to provide theater commanders a logical and coherent view of their adversary.⁷

Though not speaking of Intelligence, *per se*, Colonel Richard Swain summed up this factor well in his book, "Lucky War":

Simply put, a force built for attack has different communications, logistics, intelligence, and force structure requirements than one created for deterrence and defense and under political guidance to deploy only 'minimum essential forces.' Over and above all these short-term influences lay another reality: the armed forces committed to the Arabian Peninsula had been designed and structured originally for a very different war--a forward defense of NATO on the Central Front in Europe.⁸

Said a different way, COL Swain introduces the next external factor for discussion, a factor closely linked to the shift away from a NATO-oriented forward defense to a regional focus on the Arabian Peninsula. The shift from a defensive posture to one required to support an operational sweep of some magnitude, imposed new requirements on both the operational and intelligence communities.

...the threat posed by Iraq was not the one the U.S. Army of 1990 had been fashioned to meet. The Army had been organized, trained, and equipped to meet a Soviet invasion of Europe. A number of consequences for the Gulf War grew out of that salient fact. The Army and, indeed, the entire military panoply were equipped with the finest fighting equipment in the world. It lacked, however, the means for offensive operational maneuver because the European mission did not require them. Further, the Army had no doctrine and only a skeletal organization for echelons of command above the corps, like the Third Army. The mobilization of an army-level headquarters and support structure had to be effected as events unfolded.⁹

The slow mobilization of an army-level headquarters and support structure had monumental impact on intelligence support. The delayed arrival of intelligence resources in theater is the second external factor in our discussion. The establishment of a theater intelligence architecture was postponed until the very last minute, creating an eleventh-hour scramble to develop a coherent, theater-level military intelligence organization. At the risk of oversimplification, the entry of intelligence assets-- personnel, staff, organizations, collection assets--was delayed in favor of introducing

combat forces first. This factor, regardless of the reasons for it, contributed to an uneasy feeling among commanders that intelligence simply was not prepared to do its job when needed. Worse, it kept the very assets need to produce that intelligence for the commanders out of the theater until the very last minute.

The House of Representatives final report on intelligence in the Desert Shield/Storm found that GEN Schwarzkopf did indeed restrict the flow of intelligence assets into theater. The report indicates, however, that the restrictions were both intentional and rational, and that the restrictions were only lifted after GEN Schwarzkopf felt there were enough combat forces in theater.¹⁰ The restrictions on introducing non-combat capabilities grew from conclusions obtained in an exercise called INTERNAL LOOK 90, conducted in July of 1990. The exercise postulated an Iraqi invasion of Saudi Arabia and demonstrated to the CINC that the critical element in the defense of Saudi Arabia was the timely arrival of combat forces.¹¹ Though rational and intentional, the restriction on introducing non-combat units severely hampered the intelligence process, eventually requiring a whole new approach to intelligence. Subordinate commanders, denied their organic intelligence collectors, had to rely on national collection assets.¹² National and EAC intelligence agencies began force feeding imagery to tactical commands in unprecedented volume.¹³ This understated fact was to have tremendous repercussions in the way intelligence operations were conducted in the war. Commanders were no longer satisfied with intelligence available through the formal intelligence system, but rather came to expect individual, national-level attention which could not be met in all cases.

This "delayed-entry" factor, then, had the effect of reversing the doctrinal order of intelligence. Instead of bottom-up intelligence processing, Gulf War intelligence was driven from the top down. This created an environment quite different from that in which intelligence specialists had been trained; intelligence soldiers, at least, would not fight the way they had trained.

The best description of the overall impact of this delay on operational commanders is presented by BG Scales' study and is instructive in its entirety:

In the desert, commanders' expectations, especially below corps, remained unmet. They required much more specific intelligence than ever before, driven in part by the burgeoning information required to fully apply precision weapon systems in an offensive operation. Finished intelligence produced at the national level was not necessarily suitable for tactical planning. At the same time, Schwarzkopf's decision to bring in ground combat units first delayed arrival of higher-level intelligence battalions. The first such unit could become only partially operational by September 7 since all of its personnel and equipment did not arrive until November. The only Army aerial collection capability--III Corps' 15th MI Battalion which replaced the XVIII Airborne Corps' organic 224th MI Battalion still in the US on counterdrug operations--did not arrive until mid-October. The critically needed Joint Imagery Processing Center--the only facility that could produce annotated, hard-copy photographs--did not arrive until December. ARCENT's organic intelligence structure was not complete until C+160, the day the air operation began. Moreover, in order to mask intentions, CENTCOM directed that intelligence collection units remain well back from the border, severely hampering their effectiveness. Thus XVIII Airborne Corps' MI battalions arrived between September and October but were unable to develop a good picture of the battlefield until they moved into forward positions on January 19. The same proved true for VII Corps. Not configured for contingencies and embedded in the NATO intelligence structure, VII Corps had to rely on higher echelons for most intelligence information. The intelligence structure, designed largely for the defense of Europe, was inadequate for the grand offensive maneuver envisioned for Desert Storm.¹⁴

The new top-down intelligence process created several other problems as well. These were associated with the actual intelligence process itself and will be discussed in the section on the Intelligence Cycle.

If delayed entry of intelligence assets was instrumental in developing a top-down intelligence process, it also led to the late development of a coherent theater intelligence structure. In December and January, ARCENT was just beginning to expand its EAC force structure. However, the demand for such EAC functions as intelligence collection, engineer construction, theater transportation, graves registration, enemy POW operations, etc., had begun to require immediate attention. At the same time, major combat units were still flowing into theater. For example, in mid-December VII Corps still had 48 ships en route.¹⁵ Though the reception, staging and onward movement of the VIIth Corps units would occupy the majority of ARCENT's limited time and the theater's logistics assets, it was past time to begin increasing the theater support structure. This was as true for intelligence as it was for graves registration. The problem, though, was one of the proverbial chicken and egg. Support forces were still competing for transportation to the theater with the very forces they were trying to support. Combat forces had priority but required the very support forces they were supplanting, especially MI units to prepare for the coming battle.¹⁶ BG Stewart indicated that his biggest challenge was to set in place the intelligence team and system that would support the war given that he only had half of December and January to accomplish that mission.¹⁷

A documented lesson from the Center for Army Lessons Learned (CALL)

highlights this same difficulty.

Reduced manning in some military intelligence (MI) units at the start of the conflict, and the early command decision to give lift priority to combat forces resulted in the slow and fragmented deployment of the contingency echelons above corps (EAC) MI Brigade, from which was formed the critical EAC Intelligence Center (EACIC) node.¹⁸

This should not be construed as meaning that the intelligence structure was never established. In fact, the establishment of a sound, coherent and functioning theater army intelligence organizations can very well be considered as one of the successes of the war. In point of fact the ultimate expansion of intelligence capabilities was considered to be extraordinary.¹⁹

During the initial defensive phase when the CENTCOM plan was to defend Saudi Arabia with but one Corps, the intelligence structure was thought to be about right. In fact, the XVIII Corps intelligence capability was superior to that of CENTCOM or ARCENT and thought adequate to the task at hand. With the introduction of an offensive plan and another Corps, the theater intelligence organization had to expand to keep abreast of the new multi-corps offensive mission. The expansion began with the appointment of BG Stewart as the ARCENT and 3rd Army G2 on 21 December. The 513th MI Brigade, in direct support of 3rd Army, grew from 453 personnel in country on 1 November to 1,792 by 14 February. Likewise, the ARCENT/3rd Army G2 staff grew to almost 2000 personnel by the beginning of the ground war.

Most of this expansion was accomplished in the month before the ground war.²⁰ While this head-long rush did finally provide an intelligence structure to the theater, it

also meant, however, that tactical commanders and staffs, awaiting the arrival of their units, were handicapped in their planning by the lack of intelligence ultimately provided by units still in the cue themselves. The very fact that the intelligence team had never worked together, did not have common procedures/SOPs, and was dealing with the new intelligence paradigm of top-to-bottom intelligence, presaged a very challenging intelligence environment. By most measures, however, the ARCENT intelligence staff was very successful. Not all intelligence staffs were so fortunate.

Yet another factor external to U.S. Army intelligence system but inextricably linked to it, is the need to accommodate the intelligence apparatus of extra-departmental agencies. U.S. Army intelligence is not independent of other external intelligence agencies any more than the U.S. Army is independent of the other armed services. One non-Army intelligence organization was so intertwined with Army intelligence in the Gulf War that any assessment of Army performance simply must consider the internal structure of this non-Army organization as well. U.S. Air Force intelligence, though separate from Army intelligence, both by organization and geography, nevertheless had a key role in the actual and perceived performance of Army intelligence. Internal US Air Force staff problems, personnel issues and materiel policies, combined to preclude optimum intelligence support to the US Army, a significant factor to be considered in judging US Army intelligence system performance.

Air Force intelligence had its own internal problems, as did all intelligence agencies. The first of these problems, the lack of organizational integrity, had only an indirect impact on the Army, but an impact nevertheless. Essentially, the U.S. Air Force

component command, CENTAF, created two separate and distinct staffs; one the formal staff, the other an informal, *ad hoc* planning staff called the "Black Hole." Each incorporated its own intelligence structure.

This came about for two reasons. First, the formal air intelligence staffs of both CENTCOM and CENTAF were undermanned initially and later filled with unqualified, or under qualified, personnel.²¹ Like the Army, the Air Force recognized that these staffs were undermanned for war and, in fact, had a plan to fix the problem. Unfortunately, the plan cured one problem by introducing another. The prewar plan was simply the intention to augment the staff with personnel from other organizations. The augmentees, however, were not always qualified for their new tasks. The shortage of personnel was solved by replacing the numbers problem with that of unqualified intelligence personnel.²² This new problem simply got worse as time and the war went on.

Second, the lack of qualified personnel in the formal intelligence staffs exacerbated an already uneasy working relationship between the Air Force intelligence and operations staffs.²³ The operations staffs were being augmented with the best and brightest of Air Force operators while the intelligence staffs were being filled with unqualified filler personnel. To further exacerbate this relationship, General Horner, Commander, CENTAF, elected to create a special planning task force, called the Black Hole, outside of the normal planning process, effectively cutting out the formal intelligence staff.²⁴ This dual staffing happened despite a conscious, pre-deployment effort to avoid it. Despite pre-war efforts by the US Air Force to outline specific

organizational relationships between the intelligence and operational staffs, the inter-staff relationships that actually developed became counter-productive.²⁵

The Black Hole organization developed its own sources of intelligence through informal personal contacts outside of formal organizational channels. These informal sources of intelligence created separate and uncoordinated intelligence pipelines. The Black Hole intelligence structure became the premier Air Force intelligence organization, effectively bypassing the formal CENTAF intelligence staff.²⁶ This had a critical and negative impact on the intelligence process in theater, not only on Air Force intelligence, but also on Army and Joint intelligence with which the formal staff interfaced. The Black Hole planners had instant and ready access to national intelligence that the formal intelligence staff's (both CENTAF and CENTCOM) would eventually get through normal dissemination channels. The formal staffs could not compete with the Black Hole planners in the targeting planning cycle and, hence, their recommendations were often dismissed.²⁷ The impact of this situation was to degrade the capability of Central Command and, thus, of the U.S. Army elements, to influence the air tasking order (ATO); and it ultimately degraded the integration of air operations with the theater ground operation.²⁸ Targeting in the war, and the controversy engendered by it, was not simply a matter of the failure of intelligence and operational personnel to get along. The inability of the air staff to prosecute its nominated targets and, similarly, to respond to Army targets, was a major part of the targeting problem.²⁹

This Air Force inefficiency had a deleterious effect on Army operations, for at least two reasons. The first concerns the Army need to properly shape the battlefield

and the other is the joint requirement for Battle Damage Assessment (BDA). Though two different types of actions, they are intimately linked. The Commander decides what conditions must be met prior to executing the mission. He orders specific operations to accomplish these conditions. He monitors the status of the conditions and when they are fully met, he commences the execution of his mission. Critical to the process is the feedback the Commander receives on the status of the pre-conditions he set as a prelude to mission execution. This feedback is BDA. The conditions (or pre-conditions) are those events necessary to shape the battlefield to the Commander's expectations. One cannot be accomplished without the other. BDA is an intelligence function; shaping the battlefield is both an operational and intelligence function. Both require targets to be serviced. New targets are constantly being sought (an intelligence function requiring assets to search for, find and target the enemy) and attacked. BDA requires struck targets to be revisited to determine degree of damage and necessity of reattack. Failure to achieve either of these vital functions can seriously jeopardize Army ground operations, especially when they are as complex as those of Desert Storm.

Regardless of the culpability of the dual-intelligence-staff schism in the targeting controversy, two targeting issues are clear. First, not all Army targets were being attacked. Not even half of the Army-nominated targets even reached the ATO.³⁰ Secondly, as far as BDA was concerned, Generals Horner and Glosson (significantly, head of the Black Hole) "made a conscious decision 'not to waste aircraft to shoot pictures of targets we knew had already been struck.'"³¹ This decision was all the more

critical to the U.S. Army since the Army depended in no small measure on Air Force and national assets for BDA intelligence. Unilateral decisions such as this fuel the roles and missions debate on who controls these critical assets.

Shaping the battlefield/BDA is an extremely important consideration in determining Army intelligence performance because it is so central to the intelligence function. According to BG Stewart,

ARCENT had the responsibility of assessing Battle Damage in the KTO [Kuwaiti Theater of Operations] and providing our assessment to CENTCOM. The reason went like this: if the ground campaign's initiation was to be determined by a point when air attacks had reduced Iraqi armor and artillery by 50 percent, the ARCENT should make that determination since the Army was to conduct the main attack. The G2 was ARCENT's agent for BDA".³²

Thus, it can be seen that the lack of an Air Force unified intelligence staff did impact on the Army's operation in the war and had a direct impact on a specific Army intelligence function, Battle Damage Assessment. This was not the only Air Force issue that had an impact on Army intelligence.

Another external factor related to the Air Force was the lack of overhead reconnaissance aircraft. A viable system to produce wide-angle imagery was critical to ground commanders and their intelligence staffs. With the demise of the Soviet Union, national assets were freed to conduct surveillance in other areas of the world. However, the requirement in the KTO soon overwhelmed even the sophisticated U.S. national reconnaissance capability, the priorities for which were set in Washington and CENTCOM.³³ These systems were expected to monitor the U.N.-sanctioned blockade against Iraq, provide literally thousands of photographs of proposed targets deep inside

Iraq, even search for hostages early in the crisis. Simultaneously, surveillance systems were busily engaged mapping Iraq, all the while monitoring troop movements. There was, however, a significant gap in coverage never fully filled in the war.

According to BG Stewart, the Iraqis denied the U.S. many of the traditional sources of intelligence, at least early in the campaign. HUMINT and SIGINT had been effectively closed. The one source of intelligence still open was IMINT.

Thus, we relied on imagery, which was limited by weather and capability. We could take wide angle, blurry photos or spot, clear photos. The former severely hampered accuracy. The latter provided clarity of picture but muddled our full comprehension of the battlefield. It was like viewing a football game from the Goodyear Blimp with the stadium and city in view and then switching to a line-backer through a high powered, stationary telescope. There was not much in-between.³⁴

An excellent "in-between" system was the SR-71. The SR-71 Blackbird had the exact technical characteristics that would have made it ideal to the theater. Its speed and flight altitude would allow it to traverse Iraq with impunity. More important, it also had the capability to photograph a 30-mile swath with favorable resolution. Unfortunately, it had been removed from service only the year before Desert Shield/Storm.³⁵ Other reconnaissance aircraft available in theater that could have helped fill the void were not considered survivable in the KTO until much later in the air war. This had the impact of forcing inappropriate photography on Army commanders who were to later complain that they received fuzzy pictures of no help, or clear, precise photos of somebody else's area of operations, also of no help.³⁶

Although the factors mentioned above were the predominant external limitations impacting on U.S. Army intelligence, others could have also been discussed. The

impact of intelligence agencies other than Air Force played a role, too. The involvement--and non-involvement--of CIA, for example, is a topic of considerable interest in the intelligence community. So, too, communications, often called the lifeblood of successful military intelligence, was a critical external factor affecting the U.S. Army intelligence system. However, the three factors discussed above were unique in that they combined to create an environment larger than themselves in which U.S. Army intelligence had to operate. They set the stage on which Army intelligence had to perform and on which Army intelligence would be judged. Yet, these factors remain strangely transparent to many analyses in which Army performance is measured. Their impact was cumulative and must be considered a part of any Army intelligence judgement.

Consequences of External Factors

The "setting the stage" analogy is a good and appropriate one for considering the effect these factors had on the overall Army intelligence operation. Chief among the factors, and the most transparent in the Army's evaluation, was the almost fanatical focus of the United States on the European theater. Simply said, our doctrine, equipment and TTP (tactics, techniques and procedures) were oriented to defeating an invasion of that theater by a monolithic, predictable and rational threat. This was especially true for military intelligence. The KTO, however, bore only a superficial resemblance to the European theater; again, especially true for intelligence. Most of the intelligence disciplines and sources simply were not effective in the Gulf, especially at the beginning of the build up. The established methods, doctrine, and TTP for

obtaining, processing and disseminating intelligence simply were overshadowed by other theater concerns. Concerns for OPSEC, force protection, and deception, prevented front-line units from doing their "normal" intelligence functions. Intelligence no longer flowed from the bottom up per doctrine. The KTO theater intelligence structure ensured, almost *a priori*, that the Pentagon (and therefore the White House) knew about tactical events before the commanders on the ground. In short, this represented an entirely new way of doing the intelligence business.

At the same time, other forces prevented the intelligence force structure build-up necessary to adjust to, compensate for, and modify the intelligence operation in consonance with the new war-making environment. Regardless of the reasons--some sound, some not--both the staffs and the organizations necessary to develop and implement a fundamentally new concept of conducting intelligence operations ensured a delayed entry into the theater until the last possible moment. Thus, the backdrop for intelligence operations during Desert Shield/Storm was a new war-fighting environment and an *ad hoc* intelligence organization formed at the eleventh hour. That the U.S. Army intelligence BOS operated well is not the miracle of Gulf War Intelligence, but rather that it operated at all.

Throughout this time, Army intelligence agencies were not only organizing themselves but were also working the interface with another developing intelligence agency, that of the U.S. Air Force. Since imagery was the preferred intelligence source (and in many cases, the only source), Air Force intelligence was crucial to Army commanders. Unfortunately for both Army intelligence and Army commanders, the rift

between Air Force intelligence and operational staffs resulted in a less than optimal intelligence operation. This joint intelligence operation had a direct and negative effect on Army targeting and battle damage assessment, both of which were part of the Intelligence BOS. Adequate reconnaissance aircraft capable of wide-angle photography would have partially overcome the poor Air Force intelligence/operational coordination simply by providing theater-level imagery to the formal Air Force intelligence staff and thereby to the Army.

At any rate, the three factors certainly combined to create an environment not conducive to an ideal intelligence operation in support of the ground commanders. Though not a part of the U.S. Army intelligence structure, they constitute the foundation upon which a final assessment must be made. Returning to the "setting the stage" analogy, these external factors constitute the "theatrical situation" in which the play was performed. It is important to remember, though, that "the play's the thing", not the stage on which the play is performed. The performance indicators are separate from the environment and should be the true basis for judgement.

Performance Factors

Since before Desert Shield/Storm, the U.S. Army has divided intelligence operations into the four phases of the Intelligence Cycle shown in Figure 1. These four phases are directing, collecting, processing and dissemination.³⁷ Though depicted sequentially, the phases overlap in practice and collectively constitute the intelligence process. Directing is the management function of the intelligence cycle. It begins with the determination of requirements. Directing asks the who, what, when, where, and how questions to determine intelligence requirements. Collecting is the gathering of intelligence to answer the

commander's priority intelligence questions. It involves the management, tasking and direction of assets. Processing is the analysis phase of the cycle.³⁸ Dissemination is the process of getting intelligence to users.

Since the Intelligence Cycle

was the basis for the intelligence doctrine in Desert Shield/Storm, it is a fair standard against which to judge U.S. Army intelligence.

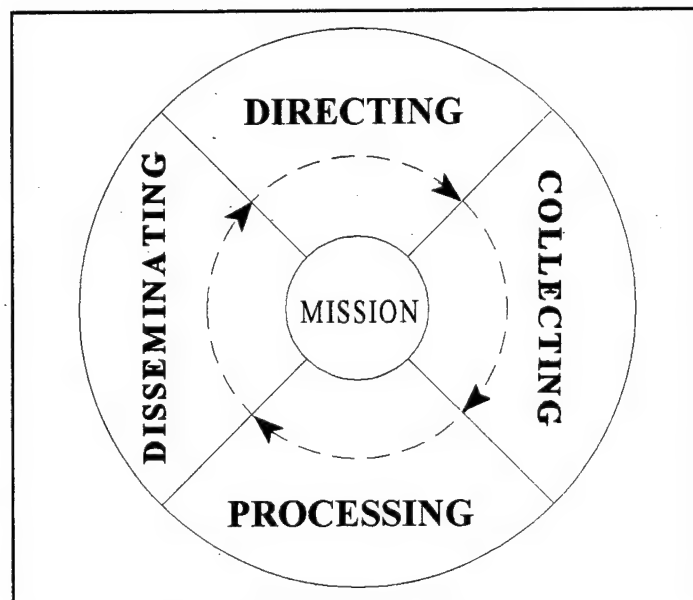


Figure 1 Intelligence Cycle

Directing

The first phase of the Intelligence Cycle was directing. It is only appropriate that this first phase of the intelligence operation was also the most lauded. The chief of Army intelligence in Desert Shield/Storm was BG John Stewart, personally appointed by the Army Chief of Staff, General Vuono, in late December. His mission was to establish an intelligence organization and structure to support the upcoming offensive operation.³⁹ COL Swain, 3rd Army historian, who knows and observed BG Stewart during Desert Shield/Storm, says of BG Stewart,

...he did bring to the problem of establishing a theater army intelligence structure the rank and authority of a general officer, a great deal of dynamic energy (he was a tireless promoter of intelligence systems), and a fund of personal knowledge of the wider Army intelligence community that allowed him to bring in a number of talented assistants and several developmental systems for managing and distributing intelligence information.⁴⁰

Amidst all the accolades BG Stewart received for his part in directing the intelligence operations before and during Desert Storm, perhaps the greatest also comes from COL Swain, "In essence, Stewart assembled and energized the theater ground intelligence structure in the month prior to D-day."⁴¹ Directing, in no small part, also includes the leadership elements of guiding, motivating and standard-setting, all of which BG Stewart exhibited. In his own words, "This team building period took longer than hoped but probably transitioned faster than we could expect. The leadership challenge during this period (January) was to instill a sense of immediate urgency in the entire G-2 staff. We did that, but not without concern and a little pain."⁴² With characteristic modesty, BG Stewart recognized his place in history, "This was an Army

MI Corps effort. We will not bore you with false modesty and made-up humility. There was a need to lead the effort, to bring disparate parts together, and to focus on the task at hand--precise intelligence for war fighters. ARCENT G-2 accomplished that."⁴³

However, the directing phase of the Intelligence Cycle is more than staff organization, team building and leadership. The fundamental question is, *Was the intelligence apparatus directed to satisfy the Commander's need?* To accomplish just such a linkage, BG Stewart developed an Intelligence/Electronic Warfare (IEW) Synchronization Plan. He describes the requirement and the result,

For several reasons, operational and tactical intelligence came from above in DESERT STORM. This represented a new way of operating and required us to manage intelligence closely. The IEW Synchronization Plan allowed G-2 to do that. It linked all intelligence functions to the operations plan and required delivery of key intelligence to the 3d Army and Corps commanders how and when they wanted it.⁴⁴

BG Scales described the Synchronization Plan in terms of the interconnection of operations and intelligence. He also suggested that the fundamental test for intelligence in Desert Shield/Storm is whether critical intelligence called "key reads" was delivered accurately and on time. In essence the IEW Synchronization Plan was a device to tie operational objectives to the intelligence needed to achieve the objectives. In the development of their courses of action, planners realized that in combat several critical tactical decisions would have to be made depending on the tactical situation. They regarded the tactical decision requirement as analogous to a football quarterback's audibles at the line of scrimmage. Just as the quarterback has a game plan, so the tactical commanders would have an operational plan. But the quarterback

often changes the immediate play based on his sensing of danger or opportunity unseen by the game plan. So, too, commanders would have to react to their "game" in a timely manner to accomplish their mission. And also like the analogous quarterback, commanders could only be successful if the correct intelligence was delivered in time to implement the correct tactical decision. This intelligence became known as "key reads", obviously from the football comparison. The plan was coordinated with the corps commanders, incorporating their specific intelligence requests into the overall plan. BG Stewart used the Intel Synch Matrix (as the synchronization plan became known) to plan the focus, collection, analysis and dissemination of intelligence to satisfy the intelligence requirements.⁴⁵

The synchronization plan identified 27 "key reads" of specific intelligence targets that would be critical to combat commanders. As intelligence confirmed or denied the intelligence request, ARCENT G-2 dispatched "Desert Read" messages to appraise commanders of the status of their intelligence requirements. "During the period, G-7 through G+4 (28 February), we sent out 27 "Desert Read" messages which described each key read or assessment of enemy probable courses of action during the period of war. Each assessment was based on precise intelligence questions required by the Corps Commanders."⁴⁶

According to the House of Representatives report on Desert Shield/Storm, the synchronization plan was, indeed, a success. "While the speed with which the war evolved overtook much of the planning that went into the concept, it was nonetheless an imaginative and professional initiative for linking intelligence collection resources to

a commander's war plans, and at the same time realistically coping with the demands and strictures of time and limited collection resources. The concept was one of the high points of the contributions of intelligence to Operation Desert Storm."⁴⁷ Thus, the directing phase was an unqualified success; the unqualified success, however, has an insidious qualification.

That battles can be won while wars are lost is a military truism bordering on the trite. Such, however, is the case with the directing phase. During the pre-war phase of Desert Shield/Storm, the directing phase of intelligence was, indeed, an unqualified success. But the quote immediately above from the House of Representatives report on Desert Shield/Storm gives us a hint to look deeper. "While the speed with which the war evolved overtook much of the planning that went into the concept...." This innocent sounding phrase tells us that the execution of the plan was overcome by the events (OBE) of the war. Whether the plan was OBE because the speed of tactical success obviated the need for the plan, or simply because the intelligence could not keep up, is not clear. If the former, no harm done. If the latter, however, then the directing function was successful, but the patient died anyway. Given that the 'Desert Read' messages were in fact dispatched, one is led to the conclusion that the directing function worked well while the dissemination phase did not. This possibility is discussed further in the section below on dissemination.

The directing phase was successful, then, in the ground war. Was it successful in the planning and preparation phases of the war as well? The answer is yes, given the tremendous handicaps imposed on the intelligence system during that period of

time. The requirements of commanders were known. The intelligence system responded to those requirements within the limits of their capability. Often the response to a request for intelligence was considered unacceptable by the commanders, not because the answer was wrong, but because the answer was in the wrong form. An example was that engineer drawings of enemy bunkers reproduced on 1:50,000 scale maps were considered "not acceptable."⁴⁸ The reason they were not acceptable was the commanders wanted photographs of the positions, not analyzed and processed drawings, no matter how good they were (and after-war analysis reveals they were extraordinarily good). The answer satisfied the commanders' request but failed to enter their "comfort zone." Perhaps the issue is not the performance of the directing phase of the Intelligence Cycle, but, rather, the trust of commanders in their intelligence system.

Collecting

Collection is the fundamental activity of Military Intelligence. When all the mystique is dispelled and all the "green doors" have been broken down, collection is the *raison d'être* for military intelligence. It is the intelligence equivalent to the infantry's marksmanship. How well the U.S. Army intelligence BOS functioned in Desert Shield/Storm is tantamount to asking first, *How well did they collect intelligence?*" The answer must begin with, *In light of the theater of operations and the nature of the U.S. force structure....* As indicated above, in the KTO the enemy had virtually deprived the United States of all sources of intelligence except imagery. The question, then, quickly becomes, *How well did they collect imagery intelligence?*

Imagery in Desert Shield/Storm was of two categories: electronic imagery (radar) and photographic. The U.S. Army has limited organic capability to perform either type of imagery intelligence against an enemy of even mediocre sophistication. Army photography has been limited to the OV-1D, MOHAWK. This platform is highly vulnerable in any scenario, even to small arms fire. It certainly was not suitable to fly against the dug-in and fairly robust anti-aircraft capability of Iraqi ground forces. The same platform also employs Side-Looking Airborne Radar (SLAR) and can be used somewhat more safely by flying at a standoff distance behind the forward line of troops (FLOT). However, the SLAR system can only designate moving targets and is not accurate enough for targeting. The reduced range produced by flying the standoff distance, combined with the severe limitations of the radar, reduced its effectiveness.

One very innovative approach to obtain imagery was employed by the XVIII Airborne Corps. Desperate for terrain intelligence, Apache helicopters used their on-board gun tapes to acquire terrain imagery.⁴⁹ However, the clear winner in U.S. Army organic imagery intelligence was the remotely piloted drone with on-board cameras called Unmanned Aerial Vehicles (UAV).

The House of Representatives report on intelligence, called "Intelligence Successes and Failures in Operations Desert Shield/Storm", and written by the Oversight and Investigations Subcommittee, determined UAVs one of the intelligence successes of the war. "The Pioneer unmanned aerial vehicle (UAV) provided substantial imagery support to Marine, Army and Navy units during Operation Desert Storm. They were so good many more could have been used."⁵⁰ The report goes on to

say that the Marines considered the UAVs especially good for target validation and BDA, areas of special concern for the Army as well as Marine ground forces. The UAVs also produced some rather unexpected results such as a group of Iraqi soldiers attempting to surrender to a UAV flying over their position.⁵¹

The Marines had more UAVs than any other ground force in theater but still desired more. The Army, on the other hand, had only one set in the war, but is actively pursuing purchase of additional sets and is currently placing them in active duty divisions. The Army's one set of UAVs went to VII Corps, to weight the main attack. VII U.S. Corps used their UAVs as a targeting vehicle, not to gather intelligence.⁵² The reasoning was simple. Satellite imagery could only locate enemy targets to a 400-meter accuracy. To be useful to strike assets, however, target locations had to be accurate to 100 meters. VII Corps solved this problem by using the satellite imagery as a cue to confirmation systems.⁵³ However, BG Stewart dismisses this distinction with the following logic: "For starters, it [UAV] has broad potential for a menu of tasks to include target development, cross cuing intelligence collection, developing the situation, and identifying specifics of an enemy force which the commander may want to attack later in his scheme of maneuver. Finally, the overall question of targeting vs. Intelligence seems to be a moot one. Target development and validation is intelligence."⁵⁴

The Army's Center for Army Lessons Learned concluded, "The UAV was a success during Operations DESERT SHIELD/STORM...UAV supports enemy situation development, target development, targeting, BDA and route reconnaissance...

Recommend the UAV be funded for system enhancements and fielding to divisions."⁵⁵ Clearly the UAV provided the U.S. Army with an organic imagery capability limited only by lack of adequate quantity. Sufficient numbers of the system would have fulfilled Division and Corps need for both a targeting and intelligence imagery system, obviating the requirement to place intelligence in a secondary role to targeting.

If the UAV emerged from the war as the U.S. Army's own imagery system with the most growth potential, the Joint Surveillance and Target Attack Radar System (JSTARS) was the winner in the joint arena. From the CENTCOM intelligence perspective, JSTARS was their most effective platform.⁵⁶ The Army's Center for Army Lessons Learned said of it, "Despite very limited assets and its developmental configuration, JSTARS proved to be of crucial value during Operation DESERT STORM."⁵⁷ BG Stewart, ARCENT G2, sang JSTARS praises even louder, "The Joint Surveillance and Target Attack Radar System was the single most valuable intelligence and targeting collection system in DESERT STORM."⁵⁸ As a joint developmental item between the Army and the Air Force, JSTARS performed well for both services.

The value to the Air Force was that JSTARS tracked moving targets in real time. Real-time intelligence on enemy targets translated to increased strikes by Air Force strike platforms. The continuous coverage also provided targets to aircraft which, for one reason or another, missed their assigned targets. This was of immeasurable benefit to the Air Force.⁵⁹ The benefit for the Army was also substantial.

JSTARS provided the Army with a long-range, near all-weather, night and day capability it had never possessed before.

JSTARS was instrumental in making every 'key read' during the ground war. It showed the lack of enemy movement just before the attack. It told us precisely where operational reserves would set up their blocking positions. It gave the first and continuous signs of Iraqi withdrawal from Kuwait and was the target development instrument we used for the Air Force attack of fleeing Iraqi Republican Guards heavy divisions establishing their defense of Basrah.⁶⁰

The only drawback to JSTARS, according to the Center for Army Lessons Learned, was that there simply were not enough of the aircraft available in theater.⁶¹ This is not surprising since JSTARS is still in development and not fully fielded to the force.

Imagery collection for the U.S. Army can be judged as mixed. On the one hand, organic imagery assets were limited to decades-old systems, housed in the even older OV-1D Mohawk. Direct overhead photography of cross-border enemy positions was not feasible, and standoff distances reduced the effectiveness of SLAR. Even the reduced capabilities were used, though, in benign environments and in cross-cuing the more advanced systems such as JSTARS. On the other hand, newer systems added to the organic imagery inventory of the U.S. Army were introduced to the conflict late (as in the case of JSTARS)⁶² or in quantities severely limiting their contribution--UAV. The dazzling performance of JSTARS, though, certainly tends to offset the mediocre performance of other Army imagery assets.

Although imagery was the premiere source of intelligence during Desert Shield/Storm, as the battle began to unfold, the Iraqi forces' counter-intelligence measures began to crumble. Iraqi soldiers began surrendering in droves within minutes of the beginning of the ground battle. This provided a tremendous access to

human sources of intelligence previously denied to U.S. intelligence sources. Similarly, as the battle matured, the Iraqi ground forces began using their radios as they started to move in reaction to the Coalition offensive. Unfortunately, the U.S. Army was not able to capitalize fully on either of these newly developed sources of intelligence. The problem was simply that many of the tactical intelligence systems require too much time to set up and take down. By the time they were in place and operating, the Iraqis were out of range or the supported unit had moved beyond their support.⁶³ That this is not an isolated observation is made clear by the official report of the House of Representatives. "An examination of combat support revealed an imbalance between it and our combat capabilities. It was not uncommon for weapon systems to race far ahead of their support."⁶⁴

Likewise, forward units were unprepared to deal with the volume of prisoners of war (POWs) instantly thrust into their hands. The problem of handling the POWs was exacerbated by the ongoing mission and speed of the assault. Intelligence derived from surrendering Iraqi soldiers was overcome by the rapid advance of the combat units. As the Center for Army Lessons Learned put it, "Designed to be signals intelligence (SIGINT) heavy, with limited human intelligence (HUMINT) capability, and no imagery collection interpretation capability, the CEWI battalion was under utilized during Operations DESERT SHIELD/STORM."⁶⁵ Thus, collection by SIGINT and HUMINT at the tactical and Army level was not "an intelligence failure", but rather these disciplines were simply not players for reasons described above in the section on external factors.

Additionally, the Long Range Surveillance Units (LRSU) were not employed effectively in Desert Shield/Storm. The teams were considered too vulnerable. They were vulnerable to interdiction, compromise and climate. Commanders realized that the intelligence provided by the teams could be collected by other means without the concomitant danger.⁶⁶

Overall, U.S. Army collection, given the particular stage on which the play of Desert Shield and Desert Storm was conducted, was as good as could be expected. "Commanders were able to successfully concentrate combat forces at the critical time and place for the decisive destruction of the enemy, with no significant tactical surprises and very few combat losses. This could not have occurred without good intelligence."⁶⁷ Good intelligence demands good collection as its predecessor. Two considerations stand out, though. First, older systems did not fare well in Desert Shield/Storm. The broad share of collection from organic assets (generously including JSTARS as an organic U.S. Army asset) was conducted by new systems, JSTARS and UAV. Even the systems not collecting due to the nonavailability of information--SIGINT and HUMINT--were severely hampered in their lesser contribution simply because they could not physically keep up with their supported force. Secondly, collection is the intelligence equivalent of the mathematical "necessary but not sufficient" condition. In other words, one must have collection to have intelligence, but having collection does not ensure intelligence. To ensure intelligence, the product of collection must be processed and analyzed. This leads to the third phase of the Intelligence Cycle, processing.

Processing

An excellent example of Army-level processing that incorporated two of the main elements of the processing phase, analysis and production, was the production of tactical troop disposition templates by the Army's Intelligence and Threat Analysis Center (ITAC). "First produced in hard copy and later transmitted digitally, the templates depicted every Iraqi division in the KTO on 1:50,000-scale maps. Accurate to 400 meters, the templates showed individual tanks, armored vehicles, artillery positions, trucks, command posts, and supply facilities and provided commanders with a blueprint of the Iraqi obstacle system. To ensure that the templates remained accurate as the ground war drew close, ITAC provided a daily update on the Iraqi defenses west of the Wadi al-Batin."⁶⁸ This kind of processing of information and resulting production occurred at every echelon, in every unit to varying degrees.

While the templates are, indeed, a good example of the processing phase, there are other examples not so clear-cut. Battle Damage Assessment (BDA) is one. As indicated above, BDA was considered an Army responsibility and within the Army, an intelligence function. It was also one of the serious controversies of the war. General Schwarzkopf said of it,

BDA...was one of the major areas of confusion. And I feel that was because there were many people who felt they were in a better position to judge battle damage assessment from a pure analysis of things like photography, and that sort of thing, alone, rather than allowing the theater commander, who is the person that really, in the final analysis, has to make the ultimate assessment to apply good military judgment to what he is seeing...it led to some distancing on the part of some agencies from the position of Central Command at the time, as to what the battle damage assessment really was.⁶⁹

If the Commander of all coalition forces in Desert Storm thought BDA simply confusing, the House of Representatives, Oversight and Investigations Subcommittee had even stronger words. "The core analysis problem of Operation Desert Storm centers on tactical battlefield damage assessment (BDA) the count of Iraqi tanks, armored personnel carriers (APCs) and artillery pieces knocked out by the air campaign before the ground offensive kicked off. This was the greatest challenge and the greatest failure of the intelligence community in Operation Desert Storm."⁷⁰ The report goes on to say that even though the Army was perhaps the right service to make the decision on BDA based on their having to suffer the consequences in a ground attack, nevertheless, the Army simply did not know how to make the assessment. It asserts that there was no doctrine for BDA in or prior to the war, and, furthermore, at the time of the report, there was still none. True, and as of the writing of this paper, the U.S. Army is still wrestling with the concept and associated TTP. BG Scales considered BDA as more art than science (as did COL Swain⁷¹ and the ARCENT G-2, BG Stewart⁷²), but believed that BG Stewart was closer than any of his critics.⁷³ Post-war analysis revealed different numbers and different conclusions, themselves the subject of controversy.⁷⁴ In the final analysis, no one knows for sure what the correct assessment was; it is, unfortunately, another unknown fact relegated to the archives of history. Moreover, BDA is an assessment, and like intelligence, represents the best professional judgement available in the face of an enemy bound and determined to transfer what can be known about him into the realm of the unknowable. More simply,

"if there is an error in the process, it is in the demand of maneuver commanders for something that cannot be delivered."⁷⁵

Intensifying the lack of doctrine was an equally serious shortage of assets to do anything about BDA, even if there had been adequate TTP in place. As mentioned above, the SR-71 had been mothballed the year before Desert Shield/Storm. Likewise, the Air Force RF-4C were in the process of being eliminated from the inventory when the war began and the Marine RF-4C units had already been disbanded.⁷⁶

There were other analytic "intelligence failures." For example, CENTCOM intelligence had misidentified four Iraqi divisions.⁷⁷ Though an error in analysis, the mistake was not crucial to the outcome since Iraqi brigades fought as brigades rather than divisions and the brigades had been correctly identified.⁷⁸ Easily the most well-known intelligence failure, though, is the beginning Iraqi troop count. Just as with the other intelligence failures, it, too, was tactically inconsequential. As the official House of Representatives After Action Report on Desert Shield/Storm puts it:

After the war ended, a controversy erupted over the numbers of Iraqi military personnel in the Kuwaiti Theater of Operations (KTO) and the numbers of Iraqis killed in the war. Dependable counts did not exist...

There were two reasons people were not counted. First, CENTCOM did not believe soldiers were the most important measure of Iraqi military strength. The coalition command felt the numbers of tanks, armored personnel carriers and artillery pieces provided the best measure of Iraqi power....

CENTCOM's second reason for keeping the focus away from people counts was a fear of reliving the preoccupation with statistics on enemy strengths and casualties that developed during the Vietnam War...

While CENTCOM rightly felt troop counts were not necessary, solid post-war information is very useful. Knowing how many of the enemy were killed is politically important....

At this point, no one knows--not even Saddam.⁷⁹

On the whole, and where it counted, Army intelligence analysis was good. The exact Iraqi troop strength question aside, the intelligence agencies had a pretty good assessment of what counted, Iraqi unit disposition and intentions. According to a Central Intelligence Agency memo:

Intelligence made much more accurate estimates of Iraqi army and air force dispositions and intentions. In the early fall, intelligence estimates correctly noted that the invading Iraqi force had transitioned to a defensive posture. Intelligence knew the locations and intentions of the less capable regular army units digging in near the Kuwaiti/Saudi Arabian border and the more capable Republican Guard being kept as a strategic reserve. By the end of 1990, the national intelligence community believed that Iraq would defend in place, try to force the Coalition (if it were to attack) into a war of attrition on the ground, and attempt to arrive at a stalemate that would undermine U.S. national will.⁸⁰

There are in fact a myriad of anecdotal incidents verifying the accuracy and timeliness of Army intelligence during the war. One such incident is described by BG Stewart, "In one story, told by the Division G-2 operations officer of the 3d Armored Division, lead U.S. tanks fired on tanks of the Tawakalna Republican Guards Division from over 3000 meters range by sighting enemy tanks using thermal optics as identified precisely by the associated [intelligence] template."⁸¹ LTC Gregory Fontenot, Commander of TF 2/34, 1st Infantry Division, tells of the resemblance of the actual,

captured enemy overlay of the 110th Brigade of the Iraqi 26th Division to the intelligence overlay issued by the Brigade S2 just prior to their attack.⁸²

Anecdotal stories, however much flair they add to the discussion, do not tell the whole story. Professional judgement is, and should be, the final arbiter. BG Stewart said of the intelligence in the war, "Military Intelligence succeeded in DESERT STORM. It is unclear now just how well MI did, but I believe that accurate, timely, and continuous tactical and operational intelligence will eventually be recognized as a major factor in the complete success of this operation and in the unprecedentedly low casualties suffered by Army forces."⁸³ More important is what the G-2's commander had to say. "The commander's response during an ARCENT After Action Review at King Khalid Military City on 12 March 1991 can be summarized as follows: 'The enemy was exactly where intelligence said he was, disposed as intelligence described; there were no surprises.' and 'Tactical intelligence was superb.' " ⁸⁴

Dissemination

*"You and your staff are doing a great job, but I want you to know I will never be satisfied with available intelligence because intelligence is directly related to casualties. The more intelligence, the less casualties. I will continue to push you for more and better intelligence. It simply has to be the very, very best."*⁸⁵

MG Rhame, CG 1st Infantry Division to his G2

"The greatest challenge faced by Army intelligence at the operational level was not only the rapid receipt and integration of national and theater derived intelligence, but also the dissemination of this materiel in readily useable form to the tactical level."⁸⁶

BG Scales calls dissemination "half of the intelligence problem."⁸⁷ He adds that imagery dissemination was the biggest challenge. According to General Scales, the U.S. Army had dismantled their imagery interpretation capability at Corps and below over the 20 years preceding Desert Shield/Storm. In its place, tactical units would receive fully analyzed, annotated and enhanced imagery called secondary imagery. This imagery would be disseminated digitally over a system called, appropriately, the Secondary Imagery Dissemination System (SIDS).

Unfortunately, the transition was still ongoing. Some units, notably those in the XVIII Airborne Corps because of its contingency missions, already had SIDS capability through TENCAP (Tactical Exploitation of National Capabilities). Other units had no or limited imagery capability. To fix this problem, the intelligence community turned to nondevelopmental items (NDI), equipment not procured through the normal acquisition process. In all over 25 such systems were rushed to the theater to fulfill inadequacies in communications or data processing capabilities.⁸⁸

It was not enough. Tactical commanders at all levels simply could not wait for the electronic problems to get fixed. They needed intelligence NOW!⁸⁹ Still another fix was the same system employed by military forces over several thousands of years: courier. According to BG Scales, "Throughout January and February, daily couriers carried 200 pounds of annotated photos, maps overprinted with Iraqi templates, and other intelligence documents, moving 27 tons of material from one end of the theater to the other."⁹⁰ Yet, BG Scales tells us that, "the system was less than ideal and division commanders remained frustrated."⁹¹ They were so frustrated, according to BG Scales,

that two division commanders even sent their intelligence officers to the rear daily to obtain the latest intelligence.

Perhaps the problem was not just physical dissemination. One clue comes from the S-3 of the 3rd Brigade, 1st Armored Division, Lieutenant Colonel G. Chesley Harris. In his article "Operation DESERT STORM Armored Brigade in Combat," LTC Harris makes the comment that a review after the Brigade's first fight revealed that their plan had been good but not executed as planned. "Intelligence had not been as exact as we had expected, and flexibility had been the secret to success."⁹² A Freudian slip, perhaps, but the intent is clear; the S-3 had been expecting exact intelligence. Regardless of the operational implications of that remark, LTC Harris reveals a mind set of modern commanders not unique to Desert Shield/Storm; perfect intelligence is not just a goal, it is the expected and demanded standard. That mind set, multiplied by hundreds of commanders, through all echelons, resulted in 27 tons of intelligence couriered from one end of the Arabian Peninsula to the other, 200 pounds every day. Products like the ITAC templates described above: Every division in the KTO on 1:50,000 scale maps. Individual tanks, APCs, artillery positions, trucks, command posts, supply facilities and blueprint of the Iraqi obstacle system--all to 400 meter accuracy. And updated daily! According to the House of Representatives after action report on intelligence, senior officers in Riyadh, "insisted that some junior officers simply had an insatiable appetite for intelligence they didn't need."⁹³ The opening quote of this section, however, is proof, indeed, that Commanders may very well have had an insatiable appetite for intelligence--but with lives hanging in the balance!

Certainly, though, dissemination was a problem. The "insatiable appetite" for intelligence overwhelmed the normal distribution channels designed for intelligence flowing bottom up. Strategic intelligence agencies were pushing intelligence to tactical units in unprecedented volume. Tactical units were being inundated with raw information that overwhelmed the analysis capability of the intelligence sections.⁹⁴ Vast amounts of intelligence received by tactical units were of such poor quality (very low resolution imagery unprocessed for end users) as to make them unusable or of very high resolution but of another area of operations.⁹⁵ To make matters worse, machines specifically designed to ease the burden of imagery dissemination could not talk to one another. Of the 12 SIDS systems in theater, only four could communicate. The net result was that intelligence agencies in the United States could send real-time imagery to CENTCOM, but only select few tactical units in theater could receive it electronically. And, finally, as the war progressed, distance factors increased beyond the range of even the effective SIDS systems; the battle tempo out surged all but local intelligence; and courier systems became ineffective. These factors produced a very real dissemination problem.

The real problem was that Commanders believed there was intelligence in theater that would help keep their troops alive, and they could not get it. The war only brought more fog and increased the Commanders sense of isolation from "the real intel".⁹⁶

By any standard, intelligence not used is useless, worse than useless because it consumes valuable resources. The image of a self-licking ice cream cone comes to

mind. However, the incessant demand for intelligence throughout the conflict defines the importance of adequate intelligence to our field commanders. And the U.S. Army intelligence community responded to deliver that intelligence, although not perfectly. "Through it all we never totally solved the dissemination problem. We probably provided too much to some units. We were definitely late at times. But intelligence did arrive, and commanders had it in their hands when they needed it."⁹⁷

Was dissemination an intelligence success or failure? If the criteria or standard is the successful accomplishment of the combat commander's mission, then the question should be reworded. The question should read, *Was mission accomplishment prevented in any way by any lack of intelligence?* The answer is in the House of Representatives official report on the Gulf War. "U.S. forces relied on superior training, equipment and mobility to overwhelm the enemy with maneuver and deception, achieving victory with minimal allied and civilian casualties. The swift and decisive victory of the ground campaign is a tribute to years of tough and demanding training by the Army and Marines for large-scale, complex, maneuver-oriented warfare."⁹⁸ The answer, obviously, is that Desert Shield/Storm was an unprecedented success from the viewpoint of the Congress of the United States. Hence, the lack of intelligence did not prevent the commanders of Desert Storm from accomplishing their mission, and, therefore, it can be said that while dissemination was not a rousing success, neither was it a "war stopper" or a failure.

Conclusion

In the introduction to Defense for a New Era the authors quote an unnamed senior U.S. commander as saying, "Desert Storm was the perfect war with the perfect enemy. The enemy leader was universally despised and his troops offered very little resistance. We had the perfect coalition, the perfect infrastructure and the perfect battlefield. We should be careful about the lessons we draw from the war."⁹⁹ While the statement was meant to warn the reader about taking the lessons learned from Desert Shield/Storm as universally applicable, it nevertheless offers another insight. It was not said that Desert Storm was the perfect war for an intelligence operation.

In point of fact, Desert Storm created an intelligence crucible that would test the United States' intelligence community's ability to adapt to an unanticipated war fraught with intelligence minefields. U.S. Army intelligence found itself tiptoeing through the minefield, bound hand and foot to the other national and departmental intelligence agencies. An assessment of U.S. Army intelligence performance must recognize the influence of aggravating external factors, yet honestly and correctly evaluate those criteria that uniquely define the performance of Army intelligence.

The first part of this paper conducted a review of the main external factors impacting U.S. Army intelligence, though themselves separate. In the second part, the standard by which U.S. Army intelligence can and should be judged was identified.

It is the conclusion of this author in consideration of the above, that U.S. Army intelligence did, in fact, support the commanders of Desert Shield/Storm. Intelligence was not perfect, not exact. In the unique environment presented by Desert

Shield/Storm, it was simply as good as it could be. Overwhelming challenges lay before the Army intelligence community in December of 1990, when BG John Stewart was appointed as ARCENT G-2 with the mission to build an intelligence structure to support the war.

First, Army intelligence had to come to grips with the new reality. Intelligence operations in the Gulf were not going to be conducted as planned for the European theater. Intelligence personnel were not going to fight as they had trained.

Intelligence, for a number of reasons, would flow top to bottom. Two of the Army's main sources of intelligence, SIGINT and HUMINT, would prove secondary at best in the Gulf Theater. Imagery would be the intelligence source of choice. The combination of the preeminence of imagery with the top down approach to intelligence flow resulted in a completely new intelligence paradigm, allowing, even encouraging, skip echelon dissemination.

Next, the Army intelligence infrastructure had to grow itself late in the game. A combination of the "killers first" deployment into theater, the deception operation not allowing any units to reconnoiter their areas, and troop security measures virtually hamstrung any intelligence operations before mid-December. The EAC Intelligence Brigade, for example, nearly tripled in size from November to February. New systems brought into the theater to facilitate the flow of intelligence (especially the NDI systems) had to be integrated into the intelligence architecture and coordinated across echelons and even across service boundaries. To overcome the inevitable "machine cannot talk to machine" disconnects, ARCENT began an incredibly ambitious courier service that

in the end moved over 27 tons of intelligence to Army units. As fast as the Army infrastructure had to grow, it also had to develop simultaneously a working relationship with Air Force intelligence.

Some of the Air Force intelligence problems impacted on the Army and specifically on the Army intelligence community. Two of these areas involved targeting and BDA. The combination of a lack of adequate reconnaissance aircraft, and poor in-house Air Force intelligence/operations coordination, resulted in less-than-optimum operations. Unfortunately, ground BDA was seen as an Army problem and characterized as the biggest intelligence failure of the war.

With the externals aside, just how well did the Army support the war? The evaluation of each phase of the Intelligence Cycle conducted above speaks for itself. What may not be clear, however, is the interaction of those phases since the manual describing them acknowledges that they are not sequential but rather conducted in parallel. As in mathematics, where the whole is often greater than the sum of the parts, so in intelligence the overall intelligence operation may in fact be greater than the sum of the individual phases. In the case of Desert Shield/Storm, Military Intelligence was an entire MI Corps effort. Everybody helped. Analysts at the Army Intelligence Agency in Washington D.C. produced 1:50,000 maps, map overlays and obstacle templates from satellite imagery with overnight deadlines for tactical units. Special-skill personnel were brought in from all over the world to upgrade growing staffs. The list goes on and on. And it took the whole team to overcome the external factors. In the end, as BG Stewart is fond of saying, MI delivered.

Then why the apparent controversy over intelligence support to Desert Shield/Storm? Why the mixed remarks from commanders like the opening quote from General Schwarzkopf? There are two answers.

The first answer is a question of expectations. Commanders do, indeed, expect perfect intelligence. They expect perfect intelligence because, unlike logistics, they do not know when they have enough. Also unlike logistics, intelligence cannot be measured, counted or weighed. All that is left is to demand it all, whatever all is. No matter how good, how exact, how perfect, intelligence will never be good enough--not as long as the life of one American soldier hangs in the balance.

The other answer lies in the theme throughout this paper. The U.S. Army is not an entity unto itself. When the American people think of the U.S. Military, they may or may not be thinking of the Army specifically. Likewise, when people refer to U.S. Intelligence, they might not be talking about U.S. Army intelligence, specifically. It is important to go beyond the rhetoric, beyond the external factors and judge the U.S. Army intelligence performance on its own merit rather than generalizations. For what it is worth, General Schwarzkopf included the U.S. Army in the phrase, "it was excellent."

NOTES

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